Providing nursing support in a resource-poor NICU

This report discusses the needs and challenges of providing nursing support in a resource-poor neonatal intensive care unit in Montego Bay, Jamaica; specifically the delivery of a teaching package for supporting staff and parents with nasogastric tube feeding.

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In March 2016 the authors travelled to the largest regional hospital – Cornwall Regional Hospital (CRH) – in Montego Bay, Jamaica, to provide nursing support in the neonatal intensive care unit (NICU, **FIGURE 1**). Montego Bay is the second largest city in Jamaica by area, and fourth by population.

The NICU at CRH has an 18-bed capacity and accepts newborn infants from 24 weeks' gestation, including surgical patients. The unit is limited by lack of adequate specialised equipment and specialist staff trained in neonatal intensive care. Volunteer services and resources aimed at improving the quality of care delivered to neonates are welcomed.

Why do it?

This opportunity came about via a senior paediatric registrar from CRH who worked with us at CenTre Transport for six months as a neonatal transport fellow. As neonatal deputy sisters on a level 3 NICU and members of a neonatal transport team with teaching experience, we felt we could share our knowledge and expertise to teach and support the nursing staff and doctors at CRH with a view to improving the quality of care for infants and supporting parents to feel part of their baby's journey. At the same time we hoped to learn about the realities and challenges of providing neonatal care in a resource-poor environment.

Planning the programme

We made initial plans with the registrar while she was working in our team in the UK. She was able to offer advice on the areas to focus on utilising our skills and those that would be most helpful to the CRH team. We intended to cover:

- supporting staff and parents to feed using a nasogastric tube (NGT) on the NICU and after discharge

Keywords

education; nurse training; parental support; nasogastric tube; infant feeding

Key points

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1. Neonatal nurses from the UK have much knowledge and expertise to offer to staff and parents in resource-poor settings.
2. Pre-planning and good preparation are vital.
3. The experience provides much 'food for thought' and reflection on one's own practice.
4. The authors encourage colleagues to consider undertaking similar projects as part of their career path.

FIGURE 1 Sophie Sharpe and Reena Parmar at Cornwall Regional Hospital, Jamaica.

- fixation devices for securing endotracheal tubes
- inter-hospital communication and documentation when transporting patients by road or air
- passive cooling for newborns with hypoxic ischaemic encephalopathy
- general nursing care in the neonatal unit.

Although each of these areas was addressed on the trip, this article will only discuss NGT support.

Having decided upon the areas for focus, we compiled a teaching plan including relevant information and current evidence to back up the training sessions. Once in Jamaica, having spent time on the NICU, we gained a deeper understanding of the team's requirements and limitations based on the environment, which allowed us to review our initial plan and tailor it to ensure that our teaching was relevant and in line with the capabilities of the NICU staff/facilities in Jamaica.

Before leaving the UK, we discussed the availability of teaching aids. To help deliver the training we took pH testing strips, oral syringes, NGTs, a simulation manikin and a teaching package devised in our local UK hospitals to aid mothers with nasogastric and orogastric tube feeding during the discharge planning process and at home (**FIGURE 2**). We applied for, and were fortunate to receive, a travel grant from HCP Study Events (www.hcpstudyevents.org.uk), which is a non-profit organisation providing study and educational opportunities for nurses and midwives.

FIGURE 2 Equipment taken to CRH to assist with NGT feeding training, including a manikin and oral syringes.

Arrival at CRH

Upon arrival we liaised with the nursing and medical team to gather a clearer understanding of how we could best support them and what their training needs were. We were able to observe staff with the infants in their care to discern their practice and their attention to patient safety. We attended ward rounds to understand care from a medical perspective; the situation-background-assessment-recommendation (SBAR) tool was used to individualise each baby's care.

NGT feeding

Gastric tube feeding, both naso- and orogastric, is commonly used in neonatal units. While generally safe, there is a small risk that during insertion the tube can become misplaced into the lungs instead of the stomach or move out of the stomach if it is accidentally pulled or if the infant vomits. If a baby is fed with the tube in the wrong position there is a risk of aspiration; it is essential to check the position of the tube after it is passed and always before the tube is used to administer a feed. Our aims were to:

1. introduce staff to the concept of confirmation of the correct position of the NGT upon tube insertion and before feeding
2. enhance NGT feeding support for parents.

1. Teaching staff to verify tube position

Prior to our visit, the nursing staff at CRH did not accurately test for tube displacement. They would measure the feeding tube, insert it and tape it to the skin, checking the length of tube at the nose or mouth. They did not test prior to each feed.

As part of our role we introduced pH testing and provided the team with a small stock of pH test strips for them to use at the time of tube insertion and prior to each feed.

We instructed the nurses on how to check for signs of tube displacement, confirm the position of the tube by gentle aspiration, test with pH paper, interpret the results and determine whether to feed or not.

2. Supporting parents with NGT feeding

To help us gain an understanding of any potential barriers to teaching, we held numerous discussions with different specialty doctors about life in Jamaica for the CRH parents, including problems associated with:

- low schooling levels
- low income
- a lack of understanding and knowledge of premature babies
- gaining the trust of the parents
- a lack of resources at CRH to enable optimum care
- no facilities for parents to stay on the unit.

In one-to-one meetings, we explained to parents (mostly mothers) about the nutritional needs of sick and preterm infants and how some preterm infants are unable to orally feed or complete the required volume of feed due to disease or because their suck and swallow coordination has not fully developed. We explained the importance of getting enough milk to grow and develop adequately and described the need for and process of enteral feeding.

We demonstrated tube feeding using our manikin and discussed feed preparation, administering a feed, increasing feeds and signs of feed intolerance.

A case example

A term infant was admitted with cleft lip and palate (**FIGURE 3**). The baby was ready for discharge, however, due to lack of resources, CRH was not able to provide the mother with the much-needed special bottles and teats that were necessary for her to oral feed her baby. The mother

purchased these herself from the USA, which delayed the baby's discharge.

We decided to teach the mother to tube feed her baby via an NGT with a view to taking the baby home. CRH had no protocols or guidance for teaching parents how to tube feed their baby; we were able to use our local trust policy guideline from the UK and our manikin to teach the mother how to safely feed her baby via an NGT at hospital and at home. We also discussed the warning signs to look out for and when it might be necessary to stop the feed.

Unfortunately, the feeding tubes at CRH did not have numerical scales to allow for adequate position checks; therefore we improvised using medical tape. We applied a small strip around the tube close to the nose/mouth to act as a marker. This small marker proved effective for the mother in that it allowed her to feel confident about knowing whether the NGT had slipped.

In the UK parents are taught how to insert a new feeding tube, if necessary. Following discussions with the medical team it was felt that it would not be appropriate for the mother in this case to insert a feeding tube herself. Instead we discussed the importance of returning to hospital if the feeding tube became dislodged, as the medical team would need to re-insert it.

The next day mother and baby went home, which brought great satisfaction to the CRH team, and to us. The mother was very grateful that discharge was much sooner than anticipated and that we were able to teach her this valuable skill.

What did we learn?

The warmth and friendliness from all levels of the CRH team was wonderful – from nursery assistants to surgeons; all welcomed us with a smile and gratitude. The dedication of the team, with very limited resources in what were sometimes difficult circumstances, was inspiring. The team's willingness to listen to our viewpoint and take on board our comments encouraged us and provided us with positive reinforcement, as did the calmness and acceptance of the parents towards all staff members. No parent appeared to be stressed or unhappy with the care provided, in contrast to our working lives in the UK where we are often challenged and questioned by parents.

FIGURE 3 Teaching a mother to tube feed her baby. The baby was admitted with cleft lip and palate (inset).

The experience as a whole provided us with much food for thought and reflection on our own practices. In the UK, we are fortunate to have many resources for caring for infants on the NICU; we take our neonatal services and equipment for granted. This experience taught us to think about the rationale of our decisions and how difficult it is to deal with the emotional turmoil of knowing that treatments exist but we are not able to offer them.

Future plans

Most importantly we learnt how much we both enjoyed working with the team at CRH and how we want to return and further develop the link with the hospital.

As this was our first trip we underestimated the amount of time that it would take to get to grips with the team and its requirements. We worked in the hospital for five days and next time we hope to spend longer. We now feel much more equipped to offer continued support and training to allow the team to expand its range of treatments and hopefully improve outcomes for infants in CRH over the long term.

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